



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: R. Varadaraj et al.

Filed: March 28, 2001

Serial No.: 09/819,331

Title: "Solids-Stabilized Water-In-Oil  
Emulsion and Method for Using  
Same"§  
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§

Examiner: Tucker, Phillip

Group Art Unit: 1712

Attorney Docket No.: PM 98.062

Confirmation No.: 4238

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450**RESPONSE TO SECOND OFFICE ACTION**

Sir:

In response to the Second Office Action of July 2, 2003, please amend the  
above-identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on  
page 2 of this paper.

**Remarks** begin on page 12 of this paper.

**OFFICIAL****FAX RECEIVED**  
AUG 27 2003  
TC 1700

27. (currently amended) The method of claim 2685, wherein said dilute acid is added at a treat rate of between about 8 parts per million to about 30,000 parts per million.
28. (currently amended) The method of claim 2227, further comprising the steps of determining the pH of said water-in-oil emulsion following emulsification, and if necessary adjusting said pH so that it falls in the range of from about 5.0 to about 7.0.
29. (original) The method of claim 28, wherein said pH of said water-in-oil emulsion is adjusted by adding ammonium hydroxide to said emulsion.
30. (currently amended) The method of claim 2285, wherein said step of adding solid particles to said oil occurs after said step of adding dilute acid to said oil.
31. (currently amended) The method of claim 2285, wherein said step of adding solid particles to said oil occurs before said step of adding said dilute acid to said oil.
32. (currently amended) The method of claim 2285, wherein said solid particles are added at a treat rate of about .05 wt% to about 0.25 wt% based on the weight of the oil.
33. (original) The method of claim 22, wherein said pretreating step comprises sulfonating at least a portion of said oil prior to emulsification.
34. (original) The method of claim 33, wherein said step of sulfonating said portion of oil comprises the addition of at least one sulfonating agent to said oil.
35. (original) The method of claim 34, wherein said sulfonating agent is sulfuric acid.
36. (original) The method of claim 34, wherein said sulfonating agent is added to said oil at a treat rate of from about 0.5wt% to about 5wt%.

37. (original) The method of claim 33, wherein said solid particles comprise hydrophobic solid particles.
38. (original) The method of claim 33, wherein said solid particles comprise functionalized asphalts.
39. (original) The method of claim 33, wherein said solid particles comprise unfunctionalized asphalts.
40. (original) The method of claim 33, wherein said step of adding solid particles to said oil occurs after said sulfonation step.
41. (original) The method of claim 33, wherein said step of adding solid particles to said oil occurs before said sulfonation step.
42. (original) The method of claim 33, wherein said solid particles are added at a treat rate of about .05 wt% to about 2.0 wt% based on the weight of the oil.
43. (original) The method of claim 22, wherein said pretreating step comprises adding a lignosulfonate additive to at least a portion of said oil prior to emulsification.
44. (original) The method of claim 43, wherein said lignosulfonate additive is added to said oil at a treat rate of between about 500 parts per million to about 5000 parts per million.
45. (original) The method of claim 43, wherein said solid particles comprise hydrophobic solid particles.
46. (original) The method of claim 45, wherein said lignosulfonate additive comprises at least one water soluble lignosulfonate additive.
47. (original) The method of claim 43, wherein said solid particles comprise hydrophilic solid particles.